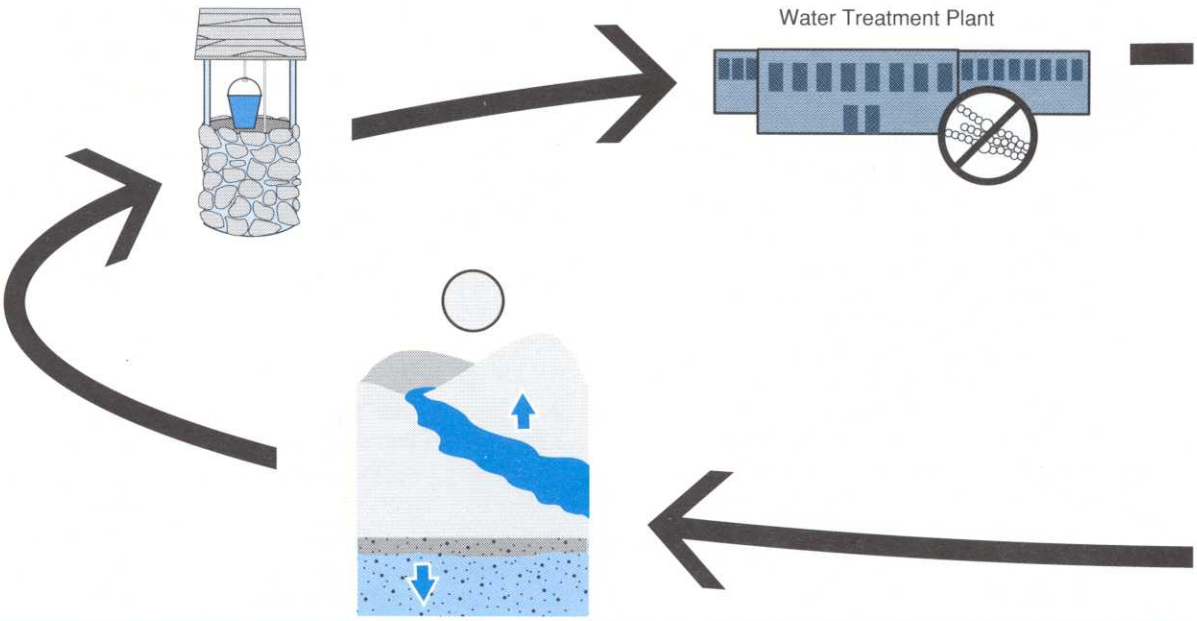
Household Water



Where Does it Come From?...Where Does it Go?

Goals: To help students become aware of where their community's water comes from, how it is obtained and how it is treated before use by investigating the operation of a local water treatment facility. To help students understand where wastewater goes and how it must be treated by visiting a local wastewater treatment facility.

Subjects: Science, Health, Home Economics

DPI Objectives: SC: D1-D4

EH: A2, A3, B1-B4, C1-C4, C6

SS: B1-B3

Grades: 6-9

Materials:

- pencils and paper

Background: Have you ever wondered where the water comes from when you turn on your tap or where it goes after it drains from your bathtub? Water for most urban and suburban areas in Wisconsin comes from city or town wells that tap an underlying aquifer. *Groundwater* from these wells passes through a water treatment facility on the way to our homes and through a wastewater treatment facility after draining from our sinks, bathtubs and toilets.

The following field trips (or guest speakers) can help students understand the workings of these facilities and encourage them to think about where their water comes from, how it is changed as it passes through their homes and how it must be treated before it is allowed to return to the groundwater supply.

Procedure:

A) Investigate a water treatment facility.

1. Contact your municipal water treatment facility and obtain permission to visit it. Arrange with the manager or other resource person to guide your trip and be available to answer questions. If a field trip is not possible, arrange for a water treatment specialist to speak to your class.

2. Before visiting the water treatment plant or having a guest speaker, develop a list of questions you would like answered. Send the list to the guide or guest speaker in advance so he/she can prepare responses. Questions to consider include:

   - From what aquifer(s) does your school or municipality get its water?
   - What is the extent (area), boundaries and depth of the aquifer?
   - What geological materials make up the aquifer?
   - How many wells does your school or community use? Where are they ? How deep are they? How much water can they pump per minute/hour/day? When were they installed?
   - What is a "cone of depression?" What is the extent of the cone of depression surrounding the well(s)? How does the cone of depression affect groundwater movement in the area?
   - What time of the day, year, does the system pump the most water? Why?
   - What is the natural chemical composition of the water before it is treated? How does the natural chemical composition compare with other wells around the state?
   - How is water transported from the treatment plant to homes and businesses?
   - Does the municipality have an adequate water supply for future needs?